

Introduction

In the “Speaking Out” section of the November-December 2002 issue of *Army AL&T* magazine, I was asked how the Program Executive Office, Command, Control and Communications Tactical (PEO, C3T) was directly helping the Army’s combat capabilities. In this article, I will try to explain how the command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) network supports the Objective Force. The C4ISR network will consist of communications and computer networks linking remote unmanned sensors to manned sensors, which will provide information to widely separated commanders who manage both manned and unmanned weapons systems. This C4ISR network will enable commanders to support individual warriors in conducting war in a totally new manner.

As stated in the Army Chief of Staff’s (CSA’s) white paper, the Objective Force is our future full-spectrum force: organized, manned, equipped, and trained to be more strategically responsive, deployable, agile, versatile, lethal, survivable, and sustainable across the entire spectrum of military operations from major theater war through counterterrorism to homeland security. This force must be able to conduct simultaneous, distributed, and continuous combined arms and air-ground operations in all terrains. C4ISR networks must provide commanders and their supporting staffs the ability to *see first, understand first, act first, and finish decisively* in all levels of war—strategic, operational, and tactical.

The Objective Force leaders and soldiers will operate in a highly dispersed battlespace, which will be operationally integrated through a secure, reliable, and sustainable information network. The information systems and the supporting sensor systems will provide domi-

nant situational understanding that will enable combined arms units to conduct simultaneous, noncontiguous distributed operations. These systems-of-systems or networks will allow all battlespace entities—whether manned or unmanned—to work as a team, sharing information that permits them to act in a knowledgeable manner.

The battlespace entities could be tank-like armored vehicles or unmanned aerial vehicles; they could also be infantry squads or scout units. With the information provided by the C4ISR network, the Objective Force can achieve its operational goals to develop situations out of contact, to maneuver to positions of advantage, to engage the enemy beyond the range of its weapons, to

destroy the enemy with precision fire and maneuver, and to tactically assault enemy capabilities or locations at the time and place of our choice.

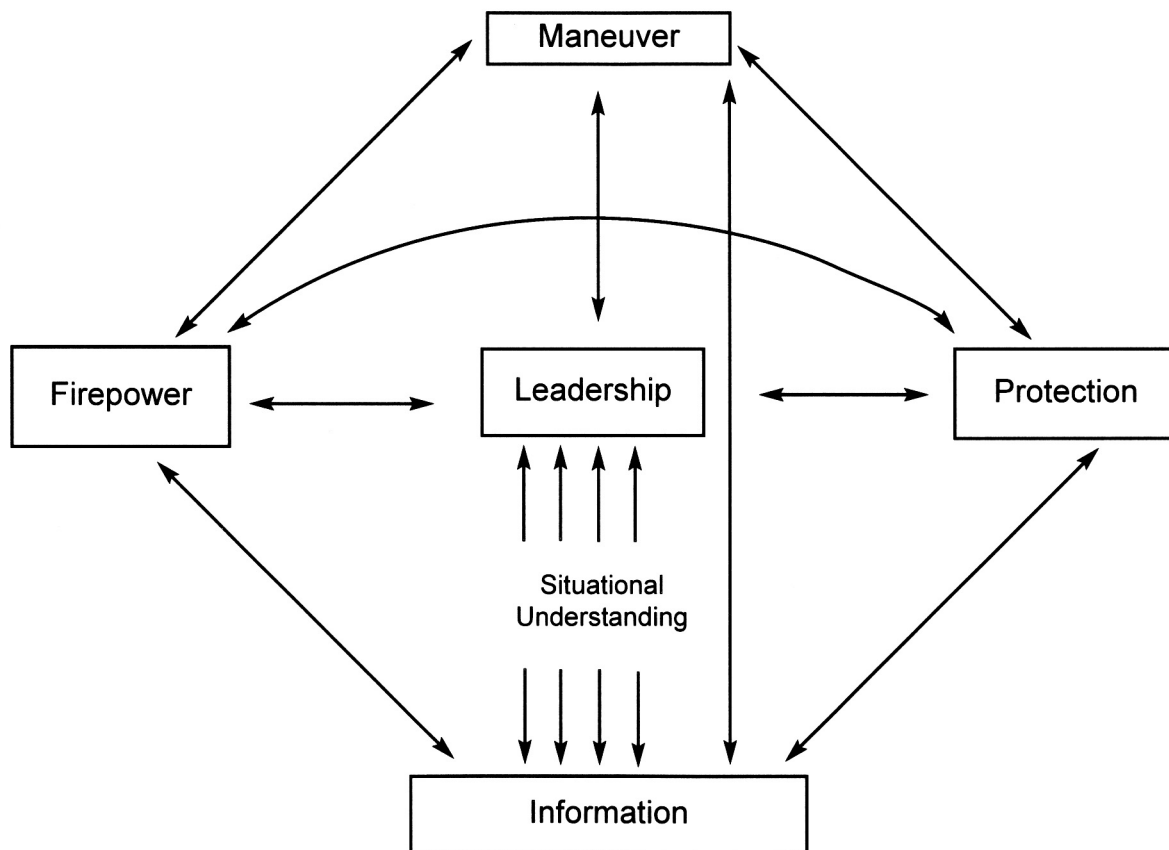
The C4ISR network is the foundation that the current Legacy Force, Interim Force, and Objective Force will use to leverage the new combat and sensor platforms. It serves first as the “backbone” of the body that allows all sensors, shooters, and decisionmakers to hang off them as the “five senses” that tell the brain what is occurring, and finally as the “nerves” that give orders to the muscles allowing the brain to initiate action. The C4ISR Network allows our leaders to conduct rapid decisionmaking and to move from plan-centric to intent-centric operations,

HOW THE C4ISR NETWORK SUPPORTS THE OBJECTIVE FORCE

BG Michael R. Mazzucchi

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Elements Of Combat Power



from physical rehearsals to virtual ones, and from static command post situational awareness to battle command on the move. These capacities change the execution of battle management decisively in our favor.

In the new Field Manual (FM) 3-0, the Army, for the first time, identifies information as an element of combat power. Information has always been vital to commanders; however, the change here is in the ability to design, test, field, and maintain a network of communication systems, computer systems, sensor systems, and surveillance systems unparalleled in both numbers and connectivity. As stated in the CSA's white paper: "... the information revolution, with the promise of accelerated breakthroughs for sur-

veillance, understanding, and communication is expected to create a base of knowledge for military planning and execution unprecedented in scope, volume, accuracy, and timeliness. While the requirement for information superiority is not a new concept, information technologies make this simpler, easier, and more powerful than ever before. [See accompanying figure.] Combining this new kind of knowledge base with related improvements in mobility, precision, range, lethality, survivability, agility, and sustainability will have a dramatic effect on future military operations." Another way of looking at this is to observe that information technology has made the reach or availability of information and its richness or content much

less expensive than ever before. For example, think of your daily connection with the Internet—the C4ISR network will provide the Objective Force commander, staff, and soldier with that type of information environment.

Evidence from the Army Warfighting Experiment (Task Force XXI), the Joint Warfighting Experiment, the recent Millennium Challenge, and from exercises such as Division Capstone I and II clearly points to increased combat power generated from advanced C4ISR systems. In the recently published U.S. Army Command and General Staff College book, *66 Stories of Battle Command*, there are great observations on how battle command at the National Training Center (NTC)

works against world-class opposing forces. While the stories do not reflect the actual C4ISR systems that will support the Objective Force, they do provide clear insight into what the new C4ISR systems and networks must provide to support the CSA's vision. MG (now LTG) William S. Wallace, then the 4th Infantry Division Commander, provided key insight when he said that sometimes we know more about the enemy than we know about ourselves.

Current C4ISR networks are beginning to provide complete information about the location of enemy forces to our commanders. The Force XXI Battle Command Brigade and Below (FBCB2) systems fielded to the 4th Infantry Division, and being fielded to the 1st Cavalry Division and the Stryker Brigade of the Interim Force, provide blue force situational awareness down to platform level. FBCB2 systems also provide blue force situational awareness from platoon leaders and their wingmen to the company and battalion tactical operations center. Through the Maneuver Control System, this same information is shared with the brigade, the division, the corps, and finally, through the Ground Command and Control System with theater and joint task force commanders. This begins to provide the relevant common operating picture called for by the Objective Force. New C4ISR networks will have the additional capability of passing combat power information such as the status of ammunition, fuel, and personnel to commanders and their staffs.

In another story from NTC, BG (now MG) Russel L. Honoré observed that the newly emerging doctrine of network- or intent-centric operations calls for more than the synchronization of forces—it calls for the orchestration of forces. To synchronize our forces, we must have C4ISR systems that help commanders and their

staffs relate battlefield functions in time and space. To orchestrate them, we must expedite the more difficult process of mixing and matching combat power, not sequentially, but rather simultaneously. The orchestration permitted by the C4ISR networks can produce the simultaneous, noncontiguous, distributed operations called for in the CSA's white paper.

ABCS And C4ISR

Another example from a III Corps warfighter highlights the importance of C4ISR networks. In this exercise, the III Corps Commander, using the current Army Battle Command Systems (ABCS) networks and sensors such as Joint Surveillance Target Attack Radar System and the Predator, conducted a shaping operation. What was different in this operation was the orchestration of the artillery fire, the close air support (CAS), and the Apaches. Through the use of ABCS and supporting communication systems (all part of the C4ISR network), the commander was able to undertake this complex operation without signaling his intentions to the enemy. He did not have to lift the artillery fires to allow the CAS to go in, followed by the Apaches. Further, he could watch the artillery, his Air Force liaison could use the Situational Awareness Data Link to see the front line of troops, and he could watch in real time the air tracks of his attack helicopter. In this exercise, the C4ISR network was both the eyes and the nerves of the commander and allowed him to orchestrate this complex operation.

Conclusion

It is important to see how the C4ISR networks are impacting the principles of war and its conduct. It is also important to be aware that these networks are not changing the nature of war. The current and future C4ISR networks will allow the Objec-

tive Force to leverage information to achieve precision. This precision will allow us to mass effects rather than forces. Said a current Air Force Under Secretary: "Precision is the new mass." Maneuver and its companion firepower are also directly impacted by the C4ISR systems, which allow the commander to convey his intent more clearly and to thin the fog of war and reduce the friction inherent in all combat operations.

We also know from history that the first impact of new technology on combat is to improve the prevailing method of fighting. The impact of the C4ISR network on the Objective Force is much more dramatic because it will create a new way of fighting (described in the CSA's white paper and in the U.S. Army Training and Doctrine Command's newest operational concepts). What does not change is the nature of war, which has been and will remain a clash of wills. The will of both the leader and warrior continues to be the primary ingredient in successful warfare. The C4ISR network allows implementation of many of the Objective Force concepts, but the soldier must still execute them.

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